PERMIT NO. HI 0020877

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. §1251 et seq.; the "Act"); Hawaii Revised Statutes (HRS), Chapter 342D; and Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55, Department of Health (DOH), State of Hawaii,

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF ENVIRONMENTAL SERVICES

(hereinafter PERMITTEE),

is authorized to discharge treated wastewater to the receiving waters named Mamala Bay, Pacific Ocean through Outfall Serial No. 001 at Latitude 21°16'47"N and Longitude 158°01'40" W,

from its Honouliuli Wastewater Treatment Plant Located at 91-1000 Geiger Road, Ewa Beach, Hawaii, 96706,

in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein, and in the DOH "Standard NPDES Permit Conditions," that is available on the DOH, Clean Water Branch (CWB) website at http://health.hawaii.gov/cwb/site-map/home/standard-npdes-permit-conditions/.

All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 2013, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

This permit, including the Zone of Mixing, became effective on **March 30, 2014.**

This minor permit modification (Pages 4, 19, 21, and 56) will be effective on April 17, 2014.

This permit, including the Zone of Mixing, and the authorization to discharge will expire at midnight, **February 27, 2019**

Signed this 17th day of April, 2014.

(For) Director of Health

This Page was modified on April 17, 2014.

FINAL PERMIT
February 28, 2014

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the effective date of this permit and lasting until the expiration date of this permit, the Permittee is authorized to discharge treated wastewater from Outfall Serial No. 001. The discharge shall be limited and monitored as specified below.

Effluent Characteristics	Discharge Limitations[1]				Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Units	Measurement Frequency	Sample Type
Flow	[2]	[2]	[2]	MGD	Continuous/ Estimate[3]	--
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	30	45	[2]	mg/L	Daily[3]	24-Hour Composite
	9,508	14,261	[2]	lbs/day		
	The average monthly percent removal shall not be less than 85 percent					
Total Suspended Solids (TSS)	30	45	[2]	mg/L	Daily[3]	24-Hour Composite
	9,508	14,261	[2]	lbs/day		
	The average monthly percent removal shall not be less than 85 percent					

MGD – Million Gallons per Day

[1] Compliance with mass-based effluent limitations shall be determined using the following formula and a design flow of 38 MGD:

lbs/day = 8.34 * concentration (mg/L) * flow (MGD)

[2] The Permittee shall monitor and report the test results.

[3] Both influent and effluent samples shall be taken, as specified in Part A.2 of this Permit

Effluent Characteristics	Discharge Limitations[1]				Monitoring Requirements	
	Average Annual	Average Monthly	Maximum Daily	Units	Measurement Frequency	Sample Type
pH	Not less than 6.0 and not greater than 9.0			standard units	5/Week[2]	Grab
Chronic Toxicity	--	--	Pass[3]	---	1/Month	24-Hour Composite
Chlordane	0.076	--	0.58	µg/L	1/Month[2]	24-Hour Composite
	0.024	--	0.184	lbs/day		
Dieldrin	0.012	--	0.27	µg/L	1/Month[2]	24-Hour Composite
	0.004	--	0.086	lbs/day		
DDT[4]	0.004	--	0.14	µg/L	1/Month[2]	24-Hour Composite
	0.001	--	0.044	lbs/day		
Enterococci	--	5,040[5]	72,144[6]	CFU/100 mL	1/Day[7]	Grab[8]
Total Nitrogen	[9]	[9]	--	µg/L	1/Month	24-Hour Composite
Total Phosphorus	[9]	[9]	--	µg/L	1/Month	24-Hour Composite
Ammonia Nitrogen	[9]	[9]	69.7	µg/L	1/Week	24-Hour Composite
	--	--	22,089	lbs/day		
Nitrate + Nitrite Nitrogen	[9]	[9]	--	µg/L	1/Month	24-Hour

Effluent Characteristics	Discharge Limitations[1]				Monitoring Requirements	
	Average Annual	Average Monthly	Maximum Daily	Units	Measurement Frequency	Sample Type
						Composite
Temperature	[9]	[9]	--	°C	1/Week	Grab
Total Oil and Grease	[9]	[9]	--	mg/L	2/Week[2]	Grab
Total Petroleum Hydrocarbons	[9]	[9]	--	mg/L	2/Week	Grab
Fats, Oils, and Grease	[9]	[9]	--	mg/L	2/Week	Calculate[10]
Turbidity	[9]	[9]	--	NTU	1/Month	Grab
Remaining Pollutants[11]	[9]	[9]	--	µg/L	2/Year	Grab

[1] Compliance with mass-based effluent limitations shall be determined using the following formula and a design flow of 38 MGD:

lbs/day = 8.34 * concentration (mg/L) * flow (MGD)

[2] Both influent and effluent samples shall be taken, as specified in Part A.2 of this Permit.
[3] "Pass", As described in Section D.3 of this Permit.
[4] DDT shall mean the sum of 4,4'-DDT, 4,4'-DDE and 4,4'-DDD.
[5] Effluent limitation expressed as a monthly geometric mean.
[6] Effluent limitation expressed as a single sample maximum.
[7] Report enterococci as a geometric mean and as a single sample.
[8] Effluent monitoring shall consist of one grab sample. Enterococci samples shall be analyzed using Method 1600, *Enterococci in Water by Membrane Filtration Using membrane-Enterococcus Indoxyl-β-D-Glucoside Agar(mEI)* (EPA 821-R-09-016).
[9] The Permittee shall monitor and report the parameter analytical test results.
[10] Fats, oils, and grease is equal to the total oil and grease minus total petroleum hydrocarbons.
[11] The Permittee shall perform semi-annual monitoring on all remaining pollutants listed in Appendix 1 of this permit, except those already specified in the table above. Effluent analyses for metals shall be reported as total recoverable.

2. For individual discharge parameters monitored in the influent and effluent, monitoring shall be conducted on the same day.

3. All influent and effluent monitoring shall be arranged so that each day of the calendar week is represented once per month (i.e., for discharge parameters monitoring five (5) days per week or three (3) days per week), or once per two (2) months (i.e., for discharge parameters monitored once per week). If the Permittee cannot arrange monitoring as prescribed, the Permittee shall provide a written explanation of the reasons with the discharge monitoring report.

4. Effluent monitoring for total nitrogen, total phosphorus, ammonia nitrogen, nitrate plus nitrite nitrogen, and turbidity shall be conducted on the same day that receiving water monitoring for said pollutants is conducted.

5. Samples taken in compliance with the monitoring requirements in Part A of this permit shall be taken at the following locations:

   a. Influent Monitoring, Monitoring Location INF: All influent samples shall be taken downstream of any additions to the trunk sewer, upstream of any

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2. Offshore Water Quality Monitoring

Offshore water quality monitoring data are used to determine compliance with State water quality standards. Offshore stations shall be located using a global positioning device (GPS) which affords a high degree of accuracy and precision that allow reoccupation of the station within ±6 meters.

The Permittee shall monitor at the following stations:

Station	Latitude	Longitude
HB1	21° 16' 50.8"N	157° 59' 20.5"W
HB2	21° 17' 00.7"N	158° 01' 21.1"W
HB3	21° 16' 52.0"N	158° 01' 28.9"W
HB4	21° 16' 47.0"N	158° 01' 38.5"W
HB5	21° 16' 55.4"N	158° 01' 32.2"W
HB6	21° 16' 33.1"N	158° 01' 47.8"W
HB7	21° 15' 33.2"N	158° 03' 13.8"W
HM1	21° 17' 00.8"N	158° 01' 37.4"W
HM2	21° 17' 04.8"N	158° 01' 14.7"W
HM3	21° 16' 45.9"N	158° 01' 24.0"W
HM4	21° 16' 40.7"N	158° 01' 45.1"W
HZ	21° 16' 53.5"N	158° 01' 30.4"W

a. The following water quality parameters shall be sampled at offshore monitoring stations HZ, HB2, HB3, HB4, and HB5 unless otherwise specified:

Parameter	Units	Sample Type	Monitoring Frequency
Visual Observations	--	Visual[1]	1/Quarter
Dissolved Oxygen	mg/L	CDP[2]	1/Quarter
Light Extinction Coefficient	k units	Secchi Disc	1/Quarter
Turbidity	NTU	Grab[3]	1/Quarter
Oil and Grease	mg/L	Grab[4]	1/Quarter

[1] Wind direction and speed, weather, water current, tidal condition, water color, turbidity, odor and flowing material shall be recorded for each day of sampling. The dates and times of sampling shall also be reported.

[2] A continuous depth profile (CDP) is a plot of depth vs. a water quality parameter. Parameter shall be measured on a CDP basis, from within 1 meter below the surface to within two (2) meters above the bottom of the bottom at 1 meter intervals.

[3] Samples shall be collected at each station within one (1) meter below the surface, mid-depth, and within two (2) meters above the bottom.

b. The following water quality parameters shall be sampled at offshore monitoring stations HB1, HB6, HB7, HM1, HM2, HM3 and HM4 unless otherwise specified:

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Parameter	Units	Sample Type	Monitoring Frequency
Visual Observations	--	Visual	1/Quarter[1]
Dissolved Oxygen	mg/L	CDP[2]	1/Quarter
pH	standard units	CDP[2]	1/Quarter
Temperature	°C	CDP[2]	1/Quarter
Salinity	ppt	CDP[2]	1/Quarter
Light Extinction Coefficient	k units	Secchi Disc	1/Quarter
Turbidity	NTU	Grab[3]	1/Quarter
Total Nitrogen	µg/L	Grab[3]	1/Quarter
Ammonia Nitrogen	µg/L	Grab[3]	1/Quarter
Nitrate + Nitrite Nitrogen	µg/L	Grab[3]	1/Quarter
Total Phosphorus	µg/L	Grab[3]	1/Quarter
Chlorophyll a	µg/L	Grab[3]	1/Quarter
Enterococci	CFU/100 mL	Grab[3]	1/Quarter[5]
Oil and Grease	mg/L	Grab[4]	1/Quarter

[1] Wind direction and speed, weather, water current, tidal condition, water color, odor and flowing material shall be recorded for each day of sampling. The dates and times of sampling shall also be reported.

[2] A continuous depth profile (CDP) is a plot of depth vs. a water quality parameter. Parameter shall be measured on a CDP basis, from within one (1) meter below the surface to within two (2) meters above the bottom of the bottom at 1 meter intervals.

[3] Samples shall be collected at each station within one (1) meter below the surface, mid-depth, and within two (2) meters above the bottom.

[4] Monitoring required at Monitoring Stations HB1, HB6, and HB7.

[5] Enterococci samples shall be analyzed using Method 1600, *Enterococci in Water by Membrane Filtration Using membrane-Enterococcus Indoxyl-β-D-Glucoside Agar(mEI)* (EPA 821-R-09-016).

Inability to conduct shoreline monitoring due to inclement weather or hazardous conditions which may endanger the lives of the facility's personnel shall not constitute a violation of this permit.

Monitoring results shall be reported in quarterly DMRs for all parameters with quarterly monitoring requirements. The DMRs submitted shall include monitoring results and probable sources and an explanation of any exceedances.

3. Offshore Sediment Monitoring

The Permittee shall monitor offshore sediments for chemistry and benthic organisms at the stations listed in the table below. The stations correspond to the offshore stations and coordinates in Part E.3. The Permittee may relocate sediment monitoring locations in the event that site conditions preclude the collection of valid samples. When relocating sediment samples, the Permittee shall provide an explanation as to why the relocation was necessary. The

Permittee shall include replicates for sediment chemistry and benthic monitoring. The number of samples required at each station is as follows:

Station		Number of Samples at Each Station (including Replicates)	
		Chemistry	Benthic Organisms
Offshore	HZ	3	3
	HB1	3	3
	HB2	3	3
	HB3	3	3
	HB4	3	3
	HB6	3	3
	HB7	3	3

Each station shall be monitored in January, February and/or March annually for the parameters indicated in Parts E.3.a and E.3.b of this permit. Sediment and biological samples shall be collected and processed in accordance with protocols found in *Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004 1987).

a. Sediment Chemistry

Sediment shall be collected using a 0.16 square meter modified van Veen grab sampler. Sediment samples for chemical analyses shall be taken from the top two (2) centimeters of the grab sample and analyzed for the parameters listed below, using methods developed by National Oceanic and Atmospheric Administration's (NOAA) *National Status and Trends Program for Marine Environmental Quality*. For metals, the Permittee shall attempt to achieve target detection limits five times lower than the Effects Range Low (ERL), or the concentration at which 10 percent of the studies show effects. Analytical results shall be reported on a dry weight basis.

Parameter	Units
Grain Size	phi
Total Organic Carbon	percent
Oxidation-reduction potential	EH; mv
Total Nitrogen	mg/kg
Acid volatile sulfides	mg/kg
Metals	
Aluminum	mg/kg
Arsenic	mg/kg

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Parameter	Units
Beryllium	mg/kg
Cadmium	mg/kg
Chromium	mg/kg
Copper	mg/kg
Iron	mg/kg
Lead	mg/kg
Mercury	mg/kg
Nickel	mg/kg
Selenium	mg/kg
Silver	mg/kg
Zinc	mg/kg
DDTs	
4,4'-DDT	µg/kg
4,4'-DDD	µg/kg
4,4'-DDE	µg/kg
Chlorinated Pesticides other than DDT	
Aldrin	µg/kg
Alpha-chlordane	µg/kg
Dieldrin	µg/kg
Endrin	µg/kg
Heptachlor	µg/kg
Heptachlor epoxide	µg/kg
Hexachlorobenzene	µg/kg
Lindane (gamma-BHC)	µg/kg
Mirex	µg/kg
Trans-Nonachlor	µg/kg
PCBs	
PCB Congeners[1]	µg/kg
Polycyclic Aromatic Hydrocarbons (PAHs)	
Acenaphthene	µg/kg
Anthracene	µg/kg
Benz(a)anthracene	µg/kg
Benzo(a)pyrene	µg/kg
Benzo(b)fluoranthene	µg/kg
Benzo(e)pyrene	µg/kg

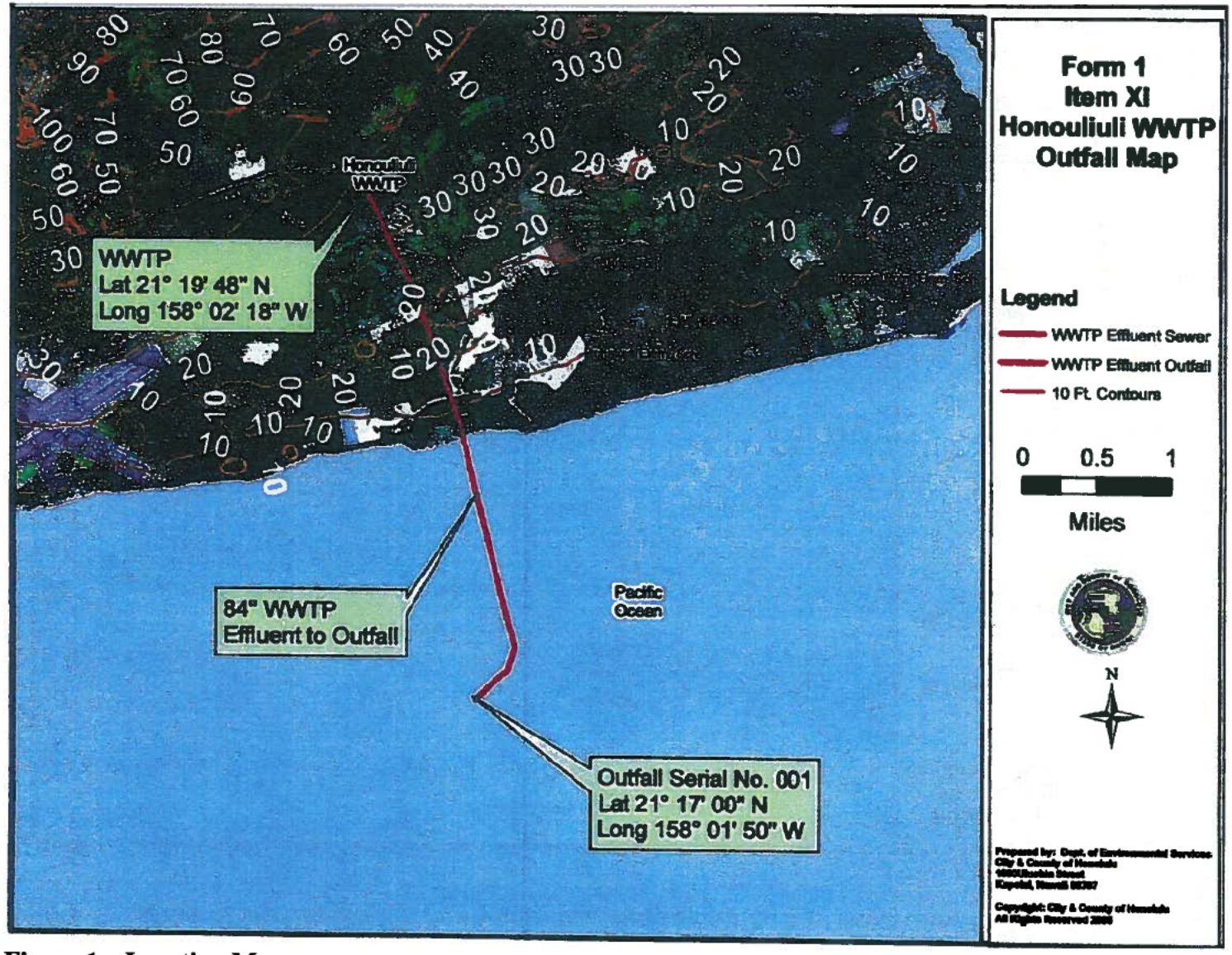
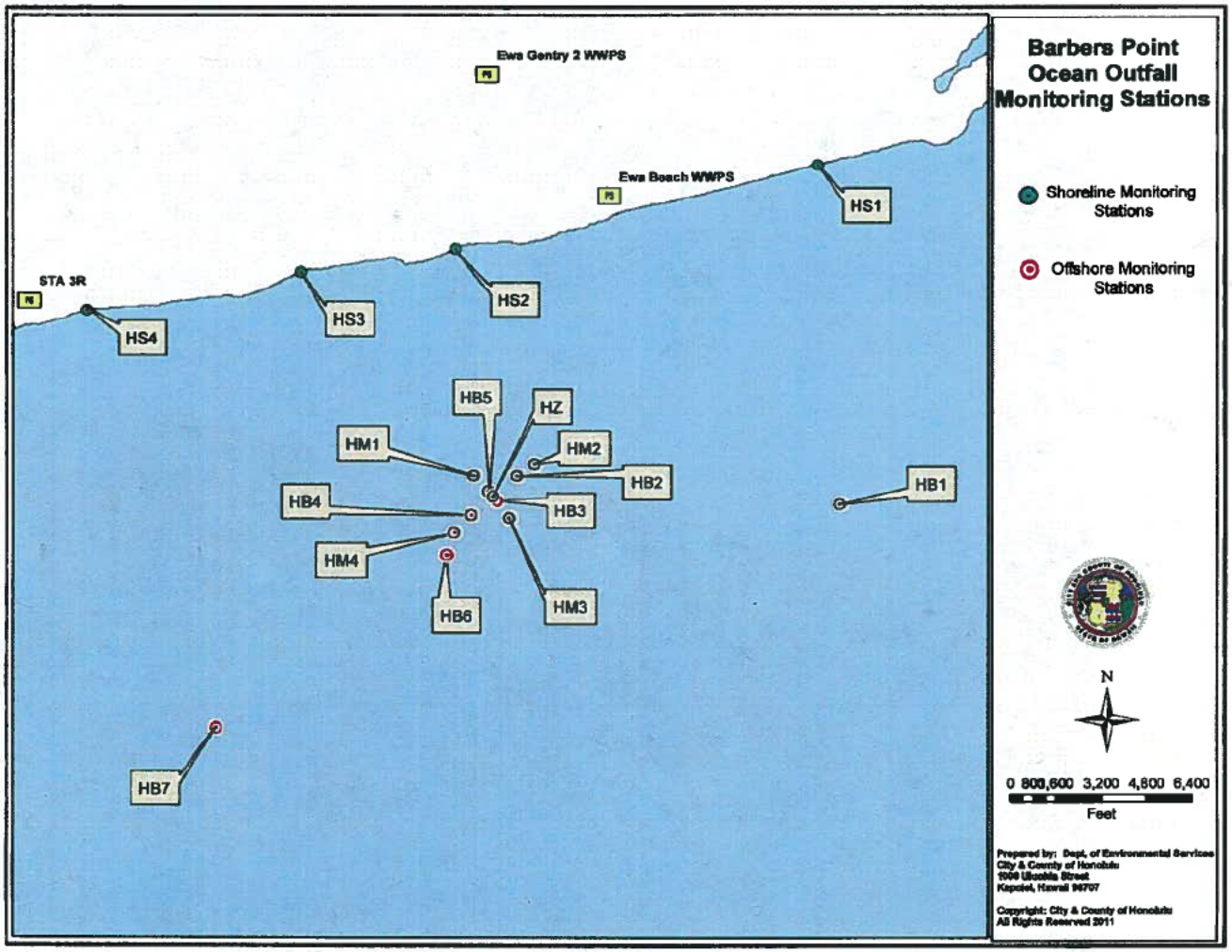


Figure 1 – Location Map

Figure 2 – Zone of Mixing (ZOM), Zone of Initial Dilution (ZID), and Receiving Water Monitoring Locations



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